

# CBCS Scheme

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16MCA22

Second Semester MCA Degree Examination, Dec.2017/Jan. 2018

## Object Oriented Programming using C++

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. What is oop? Explain the principles of oop. (08 Marks)
- b. What are inline functions? Discuss the advantages and disadvantages of inline functions. (04 Marks)
- c. Explain the general form of a class with an example. (04 Marks)

OR

- 2 a. What are constructors and destructors? Explain different types of constructors with suitable examples. (08 Marks)
- b. What are the static data members and static member functions? explain with examples (08 Marks)

### Module-2

- 3 a. What are references? Explain the three ways of using the references with examples. (08 Marks)
- b. What is dynamic memory allocation? Explain how it is handled in C++, with an examples. (08 Marks)

OR

- 4 a. Describe function overloading with an example program. (08 Marks)
- b. What are default function arguments? Explain the difference between default arguments and overloading. (08 Marks)

### Module-3

- 5 a. Describe operator overloading. Why it is necessary? Explain the restrictions of overloading an operator, with example. (08 Marks)
- b. Write a C++ program to add two complex numbers by overloading + operator. (08 Marks)

OR

- 6 a. Write a C++ perform which demonstrates how parameters are passed to a bare class constructor. (08 Marks)
- b. What are virtual base classes? With an example demonstrate its use. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

**Module-4**

- 7 a. What are virtual functions? With example demonstrate the use of virtual functions. (08 Marks)  
b. How do you explicitly overload a template function? Demonstrate with example program. (08 Marks)

**OR**

- 8 a. What is exception? How exceptions are handled in C++. (08 Marks)  
b. Write a C++ program that shows how to restrict the types of exceptions that can be thrown from a function. (08 Marks)

**Module-5**

- 9 a. Discuss the four built-in streams that are automatically opened when a C++ program begins execution. (08 Marks)  
b. Define the following :  
i) seekg() ii) seekp() iii) tellg() iv) tellp() v) precision() vi) width() vii) fill() viii) setf(). (08 Marks)

**OR**

- 10 a. Write a program which demonstrates the use of read( ) and write( ) functions using files. (08 Marks)  
b. What is STL? List and explain the three types of container in STL. (08 Marks)

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